Press release

Würth Elektronik and FELA present pioneering "s.mask" technology

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Started early in 2017, the two PCB fabricators Würth Elektronik (Niedernhall/Schopfheim) and FELA (Villingen/Schwenningen), both based in Baden-Württemberg, have been researching on an approach of coating a digital functional 3D surface, independent of varnish and machine fleet. This promises to supersede the conventional solder-stop mask in circuit board production in the near future.

Concrete news of this exciting collaboration reached the outside world for the first time at the world's leading trade fair in electronics, "electronica": the technology pushed by FELA and Würth Elektronik, which is being trademarked and marketed under the name "s.mask", pursues a new approach of coating a functional 3D surface on circuit boards.

Dr. Lothar Weitzel from Würth Elektronik and Eberhard Heiser from FELA provided information on the process and its latest progress. During a presentation on FELA's trade stand, they explained that individual design of the 3D surface allows consideration of customer demands and special requirements.

s.mask is the first and sole technology in the sector to allow for direct coating of more than just one layer of defined and precisely designed dielectric. Beside the advantages in precision and performance, the process is also showing improvements in PCB protection. This is due to gentle application

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Press release

of the functional coating as well as reduced quantity and kind of the chemicals deployed.

Thanks to their excellent resolution and dielectric properties, the solvent-free materials employed in the s.mask technology are used as an insulating coating for circuit boards in fine and microfine conductor technology, SMT and multilayer.

For assemblers and users of electronic components, s.mask offers significant advantages as compared with the solder masks currently in use, for example in terms of accuracy, tolerances and general protection.

In addition, s.mask offers a whole host of new opportunities in implementing specific product requirements in terms of dielectric strength and the design of "soldermask defined pads", and well as in designing individual finishes and markings, for instance to aid traceability.

Norbert Krütt, managing director of FELA in Villingen-Schwenningen, is highly satisfied with the outcomes achieved so far: "The digitization of PCB technology represents a real quantum leap under technological aspects. The functional coating or dielectric is no longer "generously dispersed like with a watering can but rather utilized in a targeted manner for realizing benefits in downstream processes at both stages, within the PCB production and those at our customers' sites."

Beside the advantages in precision and performance, first pilot projects also show an upgrade of the PCB **protection**. This is due to gentle application of the functional coating as well as reduced quantity and kind of the chemicals deployed.

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Andreas Gimmer, managing director of Würth Elektronik CBT in Schopfheim, says: "Since the time we started our cooperative partnership, it has been seen that the way our companies are working together provides multifarious synergies. We expect economic success for us, but also find that common research and development is simply pleasurable."

Further information:

www.smask.de

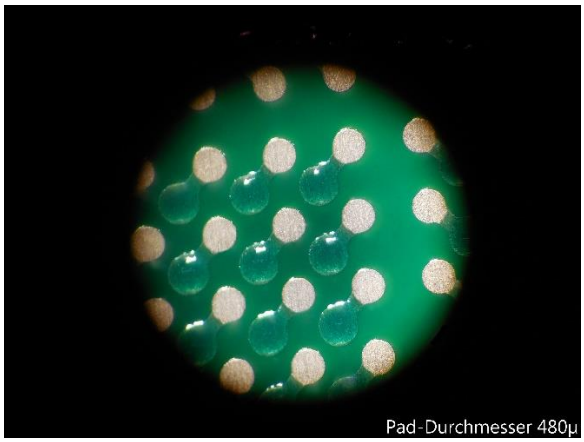

Photo (FELA GmbH): Pad diameter 480 µ.

Further photos available at www.smask.de/electronica. Reprint free of charge.

About Würth Elektronik Circuit Board Technology (CBT)

Würth Elektronik Circuit Board Technology was founded in 1971 and has since become established as one of the leading circuit board manufacturers in Europe. It provides electronics developers with everything they need from a single source – from all standard and many innovative circuit board

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technologies right through to system solutions. Würth Elektronik covers the entire product life cycle: from the initial idea for a system, to the production of prototypes and designs in the WEdirekt online shop, to the manufacture of medium-sized series or high volumes. Trained specialists are on hand to provide support – and not just in Germany. Internationalisation is an important strategic aspect. There are sales teams set up in many countries in Europe.

Every day, over 120 new circuit board designs pass through our production facilities. Our over 4,000 customers range from large conglomerates to one-person development offices. Alongside personal support from a comprehensive network of over 100 internal and field sales employees, customers have the option of purchasing circuit boards online from the easy-to-use WEdirekt web shop.

More information at:

www.we-online.de/pcb

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Page 5 of 5

About FELA GmbH

FELA is one of the five largest circuit board manufacturers in Germany and has made the leap from simple contract manufacturer to innovative system provider. "Help us shape the future!" - with this motto, FELA GmbH is a fixture on today's market.

FELA, a private, independent medium-sized enterprise based in the southern Black Forest with a 165-strong workforce, generated sales of €26.3m in 2016. The company has its headquarters in Villingen-Schwenningen and an additional distribution centre in Solingen.

As well as manufacturing and selling FR4-based circuit boards, other mainstays of the company's activities include manufacturing capacitive glass input systems with the brand name FELAM GLASLINE and, as a technological leader, FELAM THERMOLINE technology, IMS circuit boards and systems for aluminium or copper-based power LED applications.

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